

**FINAL DRAFT**

**POUND NET DISTRIBUTION AND HARVEST  
CHARACTERIZATION IN  
STRIPED BASS SPAWNING RIVERS**

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## **POUND NET DISTRIBUTION AND HARVEST CHARACTERIZATION IN STRIPED BASS SPAWNING RIVERS**

### Introduction

Pound nets are a common commercial fishing gear in Maryland's portion of Chesapeake Bay and tidal tributaries. Pound nets are an opportunistic fishing gear that targets a variety of species. They are considered a passive fishing gear and capture fish by means of entrapment rather than entanglement (Nielsen and Johnson 1992). This results in low bycatch mortality in pound nets, when fished properly. A pound net consists of a crib which is a four sided net with a bottom, secured to poles driven into the bottom of the bay or river. The top portion of the crib is above the waterline, and is usually open. A net hedging extends from the crib for various distances to help lead fish to the mouth of the crib (Figure 1). The size of the crib and the length of the hedging can vary substantially. In order to fish the pound net, watermen will routinely use a smaller skiff to untie the crib from the poles, and begin bunting the net onto the skiff. As the bunting process continues, fish are confined to an ever decreasing space until it is easy for the watermen to remove the fish with a hydraulically operated (large) dip net or dipped manually. From this point, the catch is culled.

Pound nets are currently one of the most highly regulated fishing gears in Maryland. Nets must adhere to physical dimensions and definitions contained in COMAR. Net sites must be registered to a commercial tidal fish licensee. Currently, a licensee may petition for eight pound net sites. In order to fish for striped bass, the commercial tidal fish licensee must also hold a valid Commercial Striped Bass Permit. Pound nets must adhere to marking and identification requirements. Also, pound nets may not be set within 4,500' of another pound net in Chesapeake Bay, or within 1,500' of another pound net within tributaries. In addition to these requirements, there are numerous regulations and laws pertaining to pound net use. A general overview has been included in this document (Appendix 1) and more detailed compilation of pound net laws and regulatory text may be found at: [www.dnr.state.md.us/fisheries/regulations/Gear-Specific-Laws/Pound-Net-Laws.pdf](http://www.dnr.state.md.us/fisheries/regulations/Gear-Specific-Laws/Pound-Net-Laws.pdf).

Pound nets have long been used as a fishing gear in Maryland. They accounted for an average of 28% of the striped bass harvest between 1944 and 1953, and then ranged from 1-15% of the harvest through 1984, prior to the moratorium (Chesapeake Bay Program 1989). During the moratorium there were no additional restrictions placed on pound nets other than prohibiting the harvest of striped bass (MD DNR 1987). After the moratorium, the pound net/haul seine fishery was allocated 25% of the commercial quota. However, recent shifts in the number of declared striped bass permits in the pound net fishery have resulted in an increase in the annual allocation. In 2012, the gear specific pound net quota allocated to permit holders was 33% of the Maryland commercial striped bass quota. It is important to note that although there are more

striped bass permits being declared into the pound net fishery, the number of active pound net fishermen reporting harvest (~100) has not changed in years.

DNR Fisheries Service currently conducts several surveys in the spring with cooperating pound net fishermen. The surveys indicate that striped bass are captured in the spawning rivers, but the nets are fished at least two days per week and the fish are released unharmed.

In the early 1990s, DNR biologists tagged and released hundreds of striped bass from pound nets present on the upper Bay spawning grounds during April and May as part of the ongoing spawning stock survey. From 1992-2004, DNR biologists tagged and released thousands of striped bass from pound nets throughout the Bay as part of the summer/fall tagging study. This tagging study included several tag-induced mortality experiments in which striped bass obtained from pound nets were handled in a variety of ways, then held in net pens (similar to a pound net crib) for three to eight days (Rugolo and Lange 1993, Hebert et al. 1997, Goshorn et al. 1998). The tag-induced mortality estimate currently used is 1.3%, however all the control fish without tags in these studies survived in the net pens. But just as in the pre-season hook and line catch and release fishery, the sub-lethal impacts of pound net-induced stress are unknown.

#### General Distribution and Harvest Characterization

Pound net data from January – May were selected to describe the landings and spatial distribution of pound nets that may encounter pre-spawn striped bass. Data from this report were taken from the Fisheries Service commercial landings database. The most recent 5-year period was utilized (2007 – 2011). The pound net license database does not track annual changes in site locations, and the commercial landings database cannot track landings from individual nets. Therefore, the maps contained in this report represent all registered pound net locations licensed to fishermen that reported harvesting finfish in the first five months of 2007 – 2011, but do not indicate which sites are actively being fished. This number is much lower. For example, if a fisherman has four pound net sites and utilizes two sites during January – May, and then sets the other two nets in July (or not at all) then all four sites are included. Similarly if the fisherman moved site X in 2007 to site Y in 2008, then both sites are included in the figures.

Over the time period covered in this report, 51 commercial fishermen reported catching fish from pound nets. There was a monthly increase (5 year average) in the number of pound nets from six in February to 59 in May. Most of the pound nets were located in the lower Chesapeake Bay (Figure 2; Table 1). For striped bass spawning rivers, the Chester and Potomac rivers averaged five active pound net sites and the Nanticoke River averaged three active sites in April and May. All other striped bass spawning rivers had less than three active sites. For this exercise, the number of active sites within a river was determined based on the number of reported nets fished on the Department's monthly commercial finfish logbook report.

Monthly commercial landings reports indicated that catches were relatively small in January and February because of low effort. However, Baywide catches began to increase in March, with Atlantic menhaden, gizzard shad, Atlantic croaker, channel catfish and white perch predominating (Table 2). Menhaden provided the largest dockside value, followed by Atlantic croaker, white perch, and summer flounder (Table 3).

#### Distribution and Harvest Characteristics within Striped Bass Spawning Rivers

This section details pound net locations and harvest in tributaries of the Chesapeake Bay that have a portion designated as a striped bass spawning reach. The spawning reach is a smaller portion of the spawning river and area, and was established for special conservation actions. All spatial descriptions are contained in COMAR (08.02.15.03). As noted above, the pound net sites listed do not necessarily indicate active sites in each year. For instance, there were 10 pound net sites in the Nanticoke River (see below) but only three sites were active on average based on commercial logbook reports (Table 1). The number of pound net sites listed below should be reconciled with Table 1 to get a true understanding of the amount of effort in any one year.

There were forty-five registered pound net sites in Potomac River, none of which were in the spawning reach (Figure 3; Table 4). Maryland registered pound nets sites in the Potomac River are only located in the Maryland tributaries of the river. The Potomac River Fisheries Commission has the management authority for pound nets in the mainstem of the Potomac River. The maximum number of pound nets reporting catches during the survey period was seven in April and May, 2010. The nearest pound net site to the spawning area was 7.9 nautical miles (nm) away and located in the Port Tobacco River. The highest density of pound net sites on the Potomac River was around St. Clement's Bay, which is 34 nm from the spawning reach. Pound net harvest from Potomac River was dominated by Atlantic menhaden, followed by Atlantic croaker (Table 5). However, catches in January and February mostly consisted of gizzard shad. Atlantic croaker provided the most dockside value, about four times more than Atlantic menhaden (Table 6).

There were thirteen registered pound nets sites on the Patuxent River, none of which were in the spawning reach (Figure 4; Table 4). The maximum number of pound nets reporting catches during the survey period was three in January 2011. The nearest site to the spawning reach was 2.6 nm south of the designated spawning reach. The remaining sites were evenly distributed from Sheridan Point south to Prison Point and along the shoreline inside the mouth of the river. Patuxent River pound net harvest was generally low, with white perch and catfish species accounting for 75% of the total harvest by weight (Table 7). Catches during January – March were largely catfish species. The dockside value was highest for white perch and Atlantic croaker, but Atlantic croaker did not appear in the catch until April (Table 8).

The area designated as the striped bass spawning reach in the mainstem of the Chesapeake Bay is the area north of a line drawn from Abbey Point on the western shore east to Worton Point on the eastern shore. This area also includes the Susquehanna and Elk rivers and the C&D canal. There were no pound net sites within that reach (Figure 5; Table 4). The nearest site was approximately 0.4 nm from the spawning reach, located in the mouth of the Sassafras River.

In the Chester River, there were 25 registered pound net sites, one of which was in the spawning reach (Figure 6; Table 4). The next closest site was 0.4 nm south of the spawning reach. The remaining sites were evenly distributed from Primrose Point to a line drawn from Swan Point south to Love Point. The maximum number of pound nets reporting catches during the survey period was nine in March 2010. Chester River pound net harvest was substantial, with gizzard shad, white perch, and catfish species accounting for 95% of the catch. No harvest was reported for January or February (Table 9). White perch accounted for 65% of the total dockside value (Table 10).

There were 15 registered sites on the Choptank River, two of which were in the striped bass spawning reach (Figure 7; Table 4). The maximum number of pound nets reporting catches during the survey period was two during January – May 2008 and 2009. There have been no active sites since 2009. Having fished this area for the past twenty three years, we have observed that these nets, when set, are removed prior to the striped bass spawning season. The next closest site was 24 nm away and located off of Todd Point. The highest density of sites on the Choptank River was around Cook Point, which is 27 nm away from the spawning reach. Choptank River pound net harvest consisted primarily of gizzard shad, Atlantic menhaden, and catfish. Catfish, carp and gizzard shad were important early season catches (Table 11). White perch, catfish, and Atlantic menhaden contributed most to dockside value (Table 12).

The Fishing Bay area includes Fishing Bay and the Blackwater and Transquaking rivers. There were 21 registered pound net sites in the described area, two of which were in the spawning reach of the Transquaking River (Figure 8; Table 4). The next closest site was 0.8 nm east-southeast of the Transquaking River spawning reach. The remaining sites were evenly distributed from Point No Point to a line drawn from Bishops Head Point east-northeast to Clay Island. The maximum number of pound nets reporting catches during the survey period was six in May 2009. There was no reported catch from pound nets in the Fishing Bay area during January – March. Catches during April and May were dominated by Atlantic menhaden and Atlantic croaker (Table 13). Atlantic menhaden, summer flounder, and Atlantic croaker provided 64% of the dockside value (Table 14).

In the Nanticoke River, there were 10 registered pound net sites, six of which were in the designated spawning reach (Figure 9; Table 4). The next closest site was 0.5 nm south of the spawning reach. The remaining sites were evenly distributed down to the mouth of the river. The maximum number of pound nets reporting catches during the survey period was five in April and May 2009. Pound net catches in Nanticoke River were dominated by Atlantic menhaden, gizzard shad, and catfish species. No harvest was

reported in January and February (Table 15). Summer flounder, Atlantic croaker and catfish species provided the most dockside value (67% of total; Table 16).

There were no pound net sites in the Wicomico River (Figure 10; Table 4). The closest site to the spawning reach on the Wicomico River was 3.4 nm away in Monie Bay.

There were no pound net sites in the Manokin River (Figure 11; Table 4). The closest site was 21.6 nm away and located in Tangier Sound.

There were no pound net sites in the Pocomoke River (Figure 12; Table 4). The nearest site was 2.1 nm away in Pocomoke Sound. There were seven sites evenly distributed along the northern shore of Pocomoke Sound. Despite no pound net sites being located in Pocomoke River, there are harvest records from Pocomoke River (two nets). Ostensibly, these harvest reports are from just outside the river mouth in Pocomoke Sound. There was no harvest in January, February, or March from those reports coded as Pocomoke River. Atlantic croaker and Atlantic menhaden comprised 89% of the pound net harvest by weight (Table 17). Atlantic croaker and flounder species provided 89% of the dockside value (Table 18).

#### Legislation and Regulation

A general overview of pound net rules has been included in this document (Appendix 1) and more detailed compilation of pound net laws and regulatory text may be found at: [www.dnr.state.md.us/fisheries/regulations/Gear-Specific-Laws/Pound-Net-Laws.pdf](http://www.dnr.state.md.us/fisheries/regulations/Gear-Specific-Laws/Pound-Net-Laws.pdf).

#### Recommendations

In order to more accurately determine the true number of pound nets that are set throughout the year in the Chesapeake Bay and its tributaries, it is recommended that the Department establish procedures to collect pound net activity information from commercial watermen. Notification regarding when and what nets are being set will help the Department better understand the pound net effort exhibited in the striped bass spawning rivers and reaches.

### Citations

- Chesapeake Bay Program. 1989. Chesapeake Bay Striped Bass Management Plan. An Agreement Commitment Report from the Chesapeake Executive Council. 33 pp.
- Goshorn, C., D. Smith, B. Rodgers and L. Warner. 1998. Estimates of the 1996 Striped Bass Rate of Fishing Mortality in Chesapeake Bay. Maryland Department of Natural Resources, Annapolis, MD. 30 pp.
- Hebert, K. P., D. Smith and P. Jones. 1997. Estimates of the 1995 Striped Bass Rate of Fishing Mortality in Chesapeake Bay. Maryland Department of Natural Resources, Annapolis, MD. 33 pp.
- MD DNR, 1987. Appendix A – Summary of Maryland Regulations Controlling the Commercial and Recreational Harvest of Striped Bass, 1982-1987. *In Synthesis of Information for Management of Striped Bass in Maryland*. Prepared for the White Paper Committee on Striped Bass.
- Nielson, L. A. and D. L. Johnson. 1992. Fisheries Techniques. Fourth printing by the American Fisheries Society. Pp. 95-111.
- Rugolo, L. J. and A. M. Lange. 1993. Estimation of Exploitation Rate and Population Abundance for the 1992 Maryland Striped Bass Stock. Maryland Department of Natural Resources, Annapolis, MD. 38 pp.

Table 1. Average number of active pound nets by system and month for the years 2007 – 2011. Highlighted areas are striped bass spawning rivers. The number of active sites within a river was determined based on the number of reported nets fished on the Department's monthly commercial finfish logbook report.

	JAN	FEB	MAR	APR	MAY
CHES BAY	1	0	1	1	1
MID BAY	0	0	1	1	1
LOWER BAY	9	3	7	20	22
SASSAFRAS	1	0	0	1	2
CHESTER	0	0	5	5	5
CHOPTANK	1	1	1	1	1
HONGA	0	0	0	3	7
FISHING BAY	0	0	0	4	6
HOOPERS	0	0	0	1	0
NANTICOKE	0	0	1	3	3
POCOMOKE SN	0	0	2	2	2
POCOMOKE R	0	0	0	2	2
POTOMAC	2	1	3	5	5
PATUXENT	1	1	1	1	1
ST JEROMES	0	0	0	0	0
ST. MARYS	0	0	0	1	1
WYE	0	0	0	1	0
TOTAL	15	6	22	52	59



Table 2. Average statewide monthly commercial landings (pounds) from pound nets for the 5 year period, 2007 – 2011.

	BLUEFISH	BULLHEAD	CARP	WHITE CATFISH	CHANNEL CATFISH	CROAKER	SUMMER FLOUNDER	WINTER FLOUNDER	GIZZARD SHAD	MENHADEN	HERRING	WHITE PERCH
JAN			10		4,142		1		1,458	22,902		3,347
FEB			70	540	476				1,053	2,097	9	2,965
MAR			403	1,220	2,799	4,541	9	73	39,078	120,917	1,126	29,793
APR	13	1,168	1,794	2,963	10,896	20,884	2,081	805	88,649	730,602	1,970	17,514
MAY	478	326	1,571	2,172	13,876	42,096	3,783		37,262	699,407	513	14,508
5 YR AVERAGE	491	1,494	3,846	6,895	32,188	67,521	5,874	878	167,499	1,575,924	3,618	68,126

Table 3. Estimated average monthly dockside value (USD) of commercial harvest from pound nets for the 5 year period, 2007 – 2011.

	BLUEFISH	BULLHEAD	CARP	WHITE CATFISH	CHANNEL CATFISH	CROAKER	SUMMER FLOUNDER	WINTER FLOUNDER	GIZZARD SHAD	MENHADEN	HERRING	WHITE PERCH	TOTAL
JAN			\$2		\$1,532		\$6		\$87	\$2,290		\$2,711	\$6,630
FEB			\$18	\$221	\$176				\$63	\$210	\$5	\$2,401	\$3,095
MAR			\$105	\$500	\$1,036	\$4,133	\$47	\$385	\$2,345	\$12,092	\$597	\$24,132	\$45,370
APR	\$8	\$397	\$466	\$1,215	\$4,031	\$19,005	\$10,842	\$4,218	\$5,319	\$73,060	\$1,044	\$14,186	\$133,791
MAY	\$282	\$111	\$408	\$891	\$5,134	\$38,307	\$19,708		\$2,236	\$69,941	\$272	\$11,751	\$149,041
5 YR AVERAGE	\$290	\$508	\$1,000	\$2,827	\$11,909	\$61,444	\$30,604	\$4,603	\$10,050	\$157,592	\$1,918	\$55,182	\$337,927

Table 4. Total number of pound net sites in striped bass spawning rivers, reaches, and the maximum number of active pound nets within spawning rivers, January – May, 2007 – 2011.

SYSTEM	# REGISTERED POUND NET SITES IN SPAWNING RIVER	MAXIMUM # OF POUND NETS REPORTING IN SPAWNING RIVER	# REGISTERED POUND NET SITES IN SPAWNING REACH
POTOMAC	45	7	0
PATUXENT	13	3	0
UPPER BAY	0	0	0
CHESTER	25	9	1
CHOPTANK	15	2	2
FISHING BAY	21	6	2
NANTICOKE	10	5	6
WICOMICO	0	0	0
MANOKIN	0	0	0
POCOMOKE	0	0	0
TOTAL	129	32	11

Table 5. Monthly pound net harvest (pounds) from Potomac River, 2007 – 2011.

	CARP	WHITE CATFISH	CHANNEL CROAKER CATFISH	SUMMER FLOUNDER	GIZZARD SHAD	MENHADEN	HERRING	SPOT	WHITE PERCH
JAN			2	6	6,095	3,088			687
FEB					2,119	478	5		333
MAR			93	5	6,160	89,217	1,207		4,445
APR	249	2,635	16,693	18,304	500	12,062	96,515	804	100
MAY	573	954	3,476	106,586	1,804	5,293	92,194	136	1,576
GRAND TOTAL	822	3,589	20,264	124,895	2,316	31,729	281,492	2,152	1,676
5 YR AVERAGE	164	718	4,053	24,979	463	6,346	56,298	430	335

Table 6. Dockside value of Potomac River pound net fishery, 2007 – 2011.

	CARP	WHITE CATFISH	CHANNEL CATFISH	CROAKER	SUMMER FLOUNDER	GIZZARD SHAD	MENHADEN	HERRING	SPOT	WHITE PERCH	TOTAL
JAN			\$1		\$31	\$366	\$309			\$556	\$1,263
FEB						\$127	\$48	\$3		\$270	\$447
MAR			\$34	\$5	\$31	\$370	\$8,922	\$640		\$3,600	\$13,602
APR	\$65	\$1,080	\$6,176	\$16,657	\$2,605	\$724	\$9,651	\$426	\$82	\$3,152	\$40,618
MAY	\$149	\$391	\$1,286	\$96,993	\$9,399	\$318	\$9,219	\$72	\$1,292	\$7,714	\$126,834
GRAND TOTAL	\$214	\$1,471	\$7,498	\$113,654	\$12,066	\$1,904	\$28,149	\$1,141	\$1,374	\$15,293	\$182,764
5 YR AVERAGE	\$43	\$294	\$1,500	\$22,731	\$2,413	\$381	\$5,630	\$228	\$275	\$3,059	\$36,553

Table 7. Monthly pound net harvest (pounds) from Patuxent River, 2007 – 2011.

	WHITE CATFISH	CHANNEL CATFISH	CROAKER	GIZZARD SHAD	MENHADEN	WHITE PERCH
JAN		226				3,273
FEB	2,699	116				5,563
MAR	2,054			76		5,044
APR			921	595	2,820	488
MAY		220	1,522			398
GRAND TOTAL	4,753	562	2,443	671	2,820	14,766
5 YR AVERAGE	951	112	489	134	564	2,953

Table 8. Dockside value of Patuxent River pound net fishery, 2007 – 2011.

	WHITE CATFISH	CHANNEL CATFISH	CROAKER	GIZZARD SHAD	MENHADEN	WHITE PERCH	TOTAL
JAN		\$84				\$2,651	\$2,735
FEB	\$1,107	\$43				\$4,506	\$5,656
MAR	\$842			\$5		\$4,086	\$4,932
APR			\$838	\$36	\$282	\$395	\$1,551
MAY		\$81	\$1,385			\$322	\$1,789
GRAND TOTAL	\$1,949	\$208	\$2,223	\$40	\$282	\$11,960	\$16,663
5 YR AVERAGE	\$390	\$42	\$445	\$8	\$56	\$2,392	\$3,333

Table 9. Monthly pound net harvest (pounds) from Chester River, 2007 – 2011.

	CARP	WHITE CATFISH	CHANNEL CATFISH	GIZZARD SHAD	MENHADEN	WHITE PERCH
JAN						
FEB						
MAR		1,495	5,784	122,160		53,619
APR	3,273	3,439	15,647	205,005	7,440	48,734
MAY	2,275	8,107	18,842	98,290	17,820	9,021
GRAND TOTAL	5,548	13,041	40,273	425,455	25,260	111,374
5 YR AVERAGE	1,110	2,608	8,055	85,091	5,052	22,275

Table 10. Dockside value of Chester River pound net fishery, 2007 – 2011.

	CARP	WHITE CATFISH	CHANNEL CATFISH	GIZZARD SHAD	MENHADEN	WHITE PERCH	TOTAL
JAN							
FEB							
MAR		\$613	\$2,140	\$7,330		\$43,431	\$53,514
APR	\$851	\$1,410	\$5,789	\$12,300	\$744	\$39,475	\$60,569
MAY	\$592	\$3,324	\$6,972	\$5,897	\$1,782	\$7,307	\$25,873
GRAND TOTAL	\$1,442	\$5,347	\$14,901	\$25,527	\$2,526	\$90,213	\$139,957
5 YR AVERAGE	\$288	\$1,069	\$2,980	\$5,105	\$505	\$18,043	\$27,991

Table 11. Monthly pound net harvest (pounds) from Choptank River, 2007 – 2011.

	CARP	CHANNEL	CROAKER	GIZZARD	MENHADEN	HERRING	WHITE
	CATFISH			SHAD			PERCH
JAN	48	3,149		1,194			648
FEB	142	2,108		3,005		42	2,404
MAR	629	4,341		22,724	3	875	7,841
APR	194	3,151		13,580	8,202	2,692	2,632
MAY	166	7,204	3,627	16,275	43,380	681	944
GRAND TOTAL	1,179	19,953	3,627	56,778	51,585	4,290	14,469
5 YR AVERAGE	236	3,991	725	11,356	10,317	858	2,894

Table 12. Dockside value of Choptank River pound net fishery, 2007 – 2011.

	CARP	CHANNEL	CROAKER	GIZZARD	MENHADEN	HERRING	WHITE	TOTAL
	CATFISH			SHAD			PERCH	
JAN	\$12	\$1,165		\$72			\$525	\$1,774
FEB	\$37	\$780		\$180		\$22	\$1,947	\$2,967
MAR	\$164	\$1,606		\$1,363		\$464	\$6,351	\$9,948
APR	\$50	\$1,166		\$815	\$820	\$1,427	\$2,132	\$6,410
MAY	\$43	\$2,665	\$3,301	\$977	\$4,338	\$361	\$765	\$12,449
GRAND TOTAL	\$307	\$7,383	\$3,301	\$3,407	\$5,159	\$2,274	\$11,720	\$33,548
5 YR AVERAGE	\$61	\$1,477	\$660	\$681	\$1,032	\$455	\$2,344	\$6,710

Table 13. Monthly pound net harvest (pounds) from Fishing Bay area, 2007 – 2011.

	BULLHEAD	CARP	CHANNEL	CROAKER	SUMMER	GIZZARD	MENHADEN	WHITE
			CATFISH		FLOUNDER	SHAD		PERCH
JAN								
FEB								
MAR								
APR	4,150	495	1,283	15,988	1,045	11,675	166,122	275
MAY	23	433	3,317	13,509	3,188	11,375	193,398	438
GRAND TOTAL	4,173	928	4,600	29,497	4,233	23,050	359,520	713
5 YR AVERAGE	835	186	920	5,899	847	4,610	71,904	143

Table 14. Dockside value of Fishing Bay area pound net fishery, 2007 – 2011.

	BULLHEAD	CARP	CHANNEL	CROAKER	SUMMER	GIZZARD	MENHADEN	WHITE	TOTAL
			CATFISH		FLOUNDER	SHAD		PERCH	
JAN									
FEB									
MAR									
APR	\$1,411	\$129	\$475	\$14,549	\$5,444	\$701	\$16,612	\$223	\$39,543
MAY	\$8	\$113	\$1,227	\$12,293	\$16,609	\$683	\$19,340	\$355	\$50,627
GRAND TOTAL	\$1,419	\$241	\$1,702	\$26,842	\$22,054	\$1,383	\$35,952	\$578	\$90,171
5 YR AVERAGE	\$284	\$48	\$340	\$5,368	\$4,411	\$277	\$7,190	\$116	\$18,034

Table 15. Monthly pound net harvest (pounds) from Nanticoke River, 2007 – 2011.

	BULLHEAD	CARP	WHITE CATFISH	CHANNEL CATFISH	CROAKER	SUMMER FLOUNDER	GIZZARD SHAD	MENHADEN	HERRING	WHITE PERCH
JAN										
FEB										
MAR		259	2,550	520			6,648		342	5,018
APR	1,657	1,125	8,739	1,707	7,103	961	6,998	38,930	154	1,170
MAY	1,606	1,057	1,801	1,390	1,855	1,772	4,793	20,225	121	234
GRAND TOTAL	3,263	2,440	13,090	3,617	8,958	2,733	18,438	59,155	616	6,422
5 YR AVERAGE	653	488	2,618	723	1,792	547	3,688	11,831	123	1,284

Table 16. Dockside value of Nanticoke River pound net fishery, 2007 – 2011.

	BULLHEAD	CARP	WHITE CATFISH	CHANNEL CATFISH	CROAKER	SUMMER FLOUNDER	GIZZARD SHAD	MENHADEN	HERRING	WHITE PERCH	TOTAL
JAN											
FEB											
MAR		\$67	\$1,046	\$192			\$399		\$181	\$4,064	\$5,949
APR	\$563	\$292	\$3,583	\$632	\$6,464	\$5,007	\$420	\$3,893	\$81	\$948	\$21,883
MAY	\$546	\$275	\$738	\$514	\$1,688	\$9,232	\$288	\$2,023	\$64	\$190	\$15,557
GRAND TOTAL	\$1,109	\$634	\$5,367	\$1,338	\$8,152	\$14,239	\$1,106	\$5,916	\$327	\$5,201	\$43,389
5 YR AVERAGE	\$222	\$127	\$1,073	\$268	\$1,630	\$2,848	\$221	\$1,183	\$65	\$1,040	\$8,678

Table 17. Monthly pound net harvest (pounds) from Pocomoke River, 2007 – 2011.

	CHANNEL CATFISH	CROAKER	SUMMER FLOUNDER	WINTER FLOUNDER	MENHADEN	WHITE PERCH
JAN						
FEB						
MAR						
APR	2,877	33,300		2,535	30,960	4,247
MAY		23,175	2,400		14,940	
GRAND TOTAL	2,877	56,475	2,400	2,535	45,900	4,247
5 YR AVERAGE	575	11,295	480	507	9,180	849

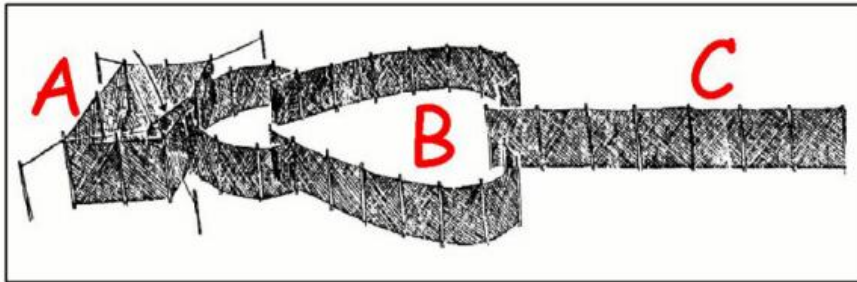
Table 18. Dockside value of Pocomoke River pound net fishery, 2007 – 2011.

	CHANNEL CATFISH	CROAKER	SUMMER FLOUNDER	WINTER FLOUNDER	MENHADEN	WHITE PERCH	TOTAL
JAN							
FEB							
MAR							
APR	\$1,064	\$30,303		\$13,283	\$3,096	\$3,440	\$51,187
MAY		\$21,089	\$12,504		\$1,494		\$35,087
GRAND TOTAL	\$1,064	\$51,392	\$12,504	\$13,283	\$4,590	\$3,440	\$86,274
5 YR AVERAGE	\$213	\$10,278	\$2,501	\$2,657	\$918	\$688	\$17,255



Figure 1. Typical Chesapeake Bay pound net design. Source: <http://www.dnr.state.md.us/fisheries/commercial/poundnet.html>

## WHAT IS A POUND NET?



A pound net is a visible passive (stationary) gear type used for the live-entrapment of fish species.

This gear is constructed using an arrangement of fiber netting supported upon a series of stakes or pilings.

A pound net consists of three main sections:

1. A crib/pound (**A**) which is the enclosed end where the entrapment takes place.
2. A heart (**B**) which is actually a net in the shape of a heart that aids in funneling fish into the crib.
3. A hedging/leader (**C**) which is a long straight net that leads the fish off shore towards the crib.

Fish swimming along shore are turned towards the crib by the hedging, guided into the heart, and then into the crib where they are removed periodically using various techniques.

Figure 2. Chesapeake Bay pound net sites of fishermen reporting catches during January – May, 2007 – 2011. Striped bass spawning reaches are in light blue. Note: not all sites were active in any one year.

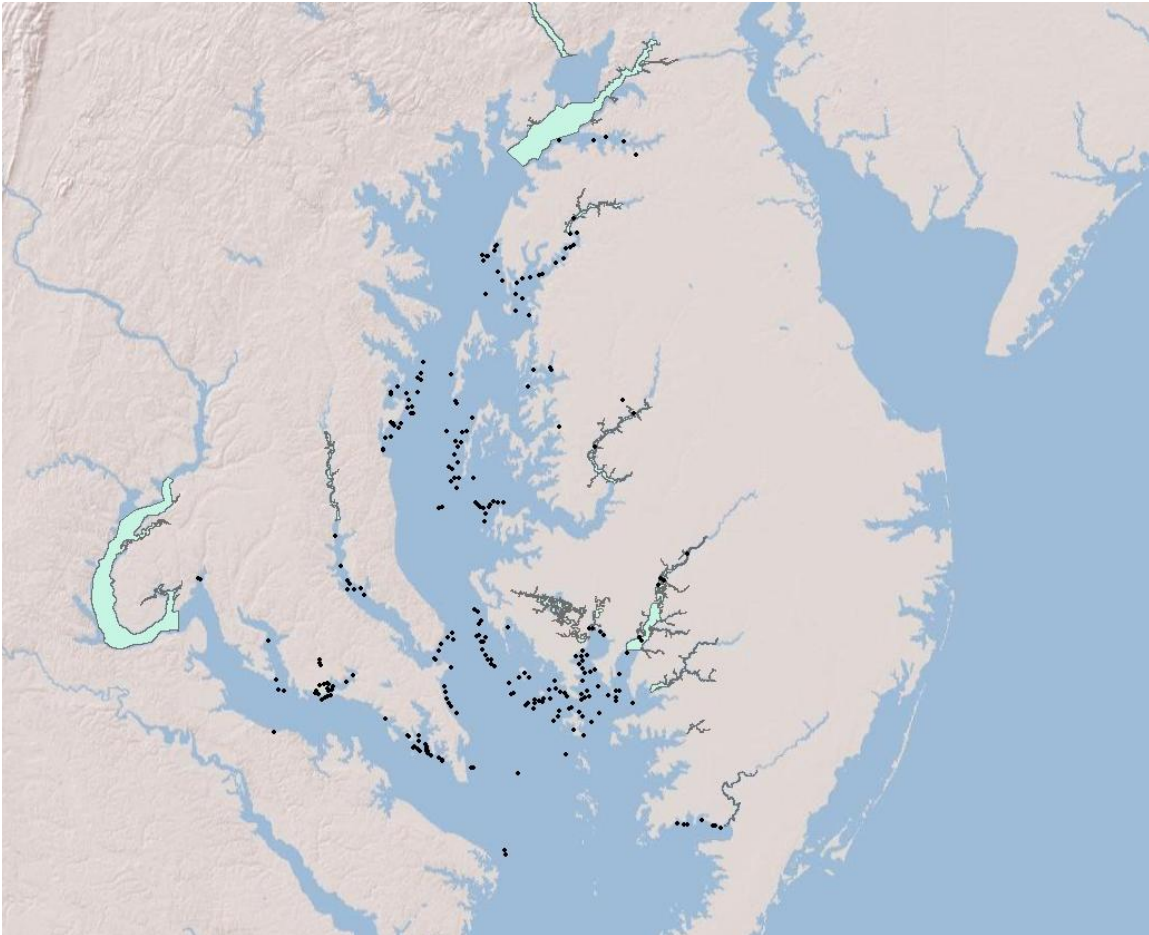


Figure 3. Potomac River pound net sites (black dots) of fishermen reporting catches during January – May, 2007 – 2011. Striped bass spawning reaches are in light blue. Note: not all sites were active in any one year.



Figure 4. Patuxent River pound net sites (black dots) of fishermen reporting catches during January – May, 2007 – 2011. Striped bass spawning reaches are in light blue. Note: not all sites were active in any one year.

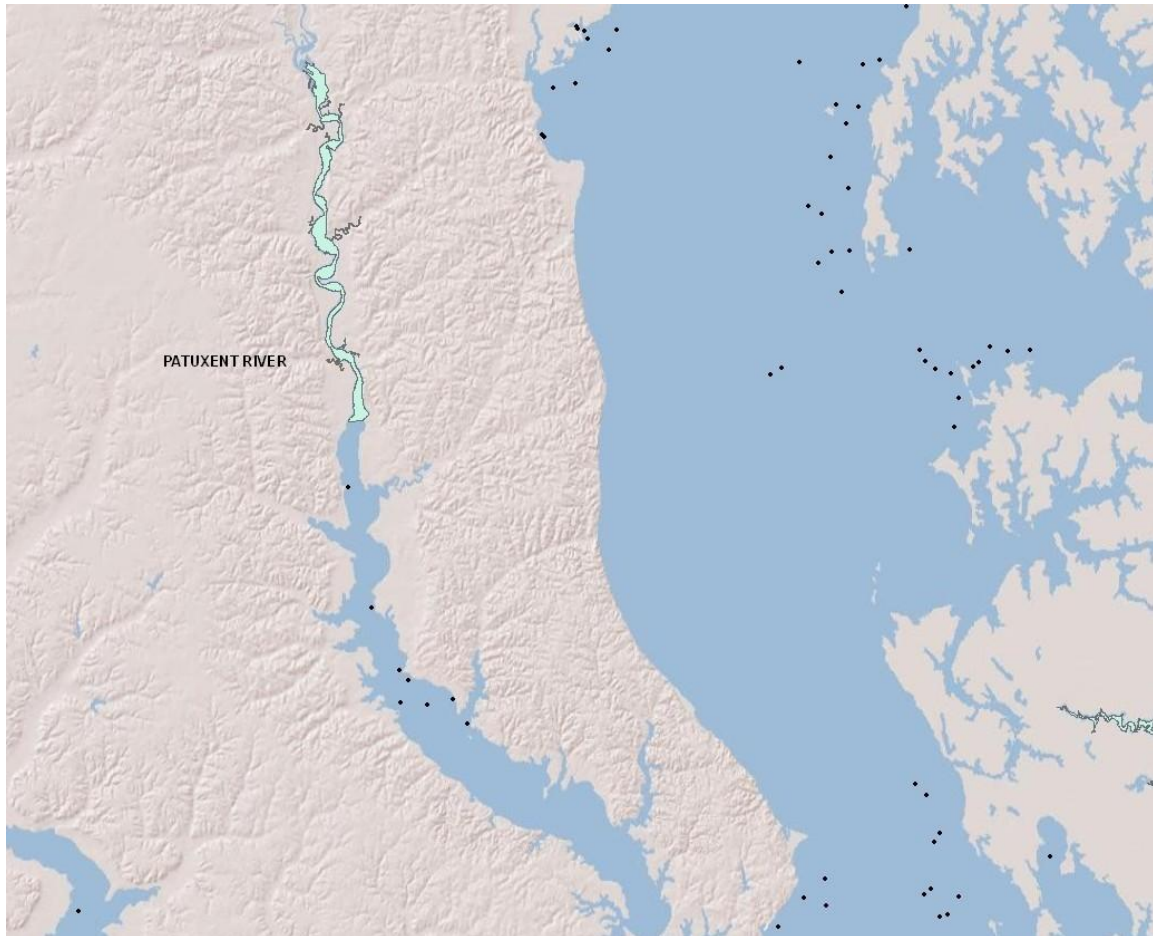




Figure 5. Upper Chesapeake Bay pound net sites (black dots) of fishermen reporting catches during January – May, 2007 – 2011. Striped bass spawning reaches are in light blue. Note: not all sites were active in any one year.

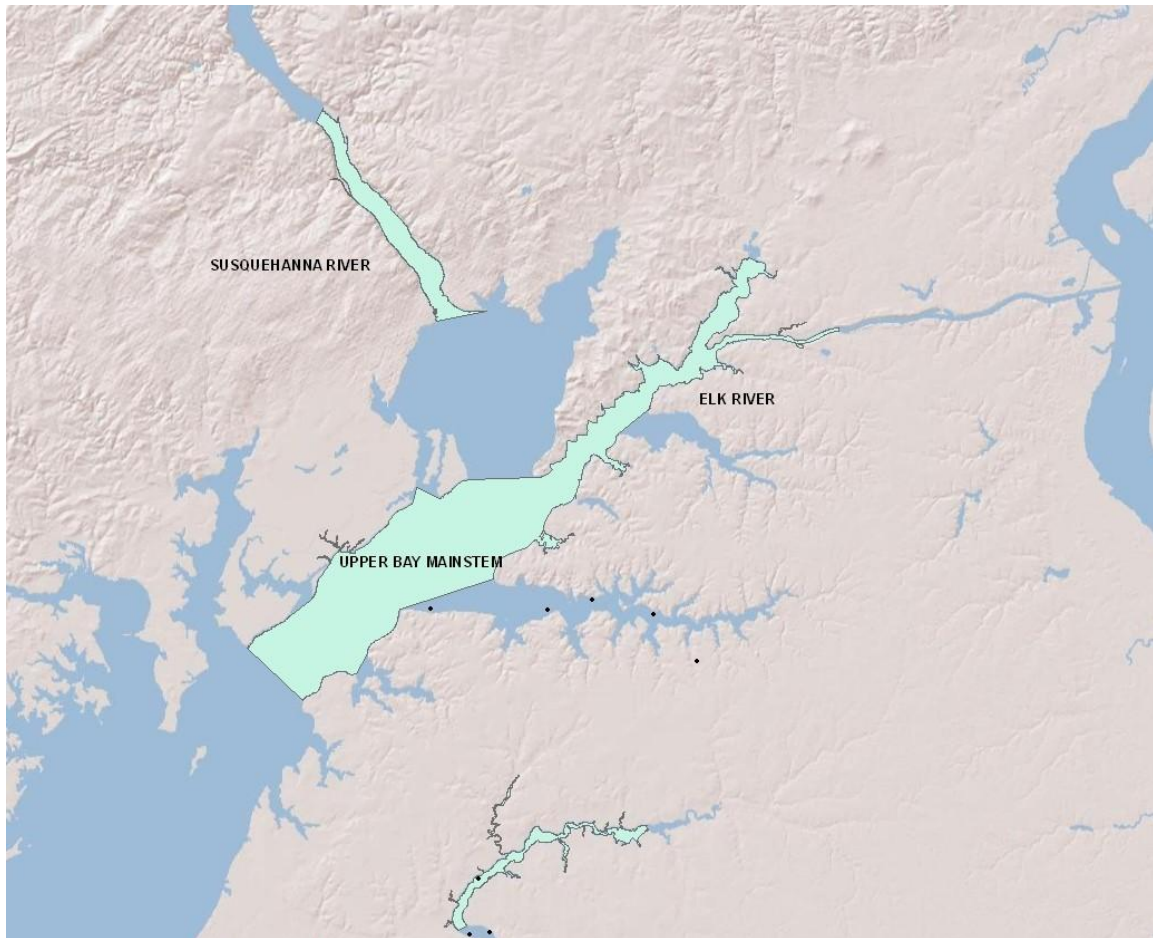


Figure 6. Chester River pound net sites (black dots) of fishermen reporting catches during January – May, 2007 – 2011. Striped bass spawning reaches are in light blue. Note: not all sites were active in any one year.



Figure 8. Fishing Bay area pound net sites (black dots) of fishermen reporting catches during January – May, 2007 – 2011. Striped bass spawning reaches are in light blue. Note: not all sites were active in any one year.

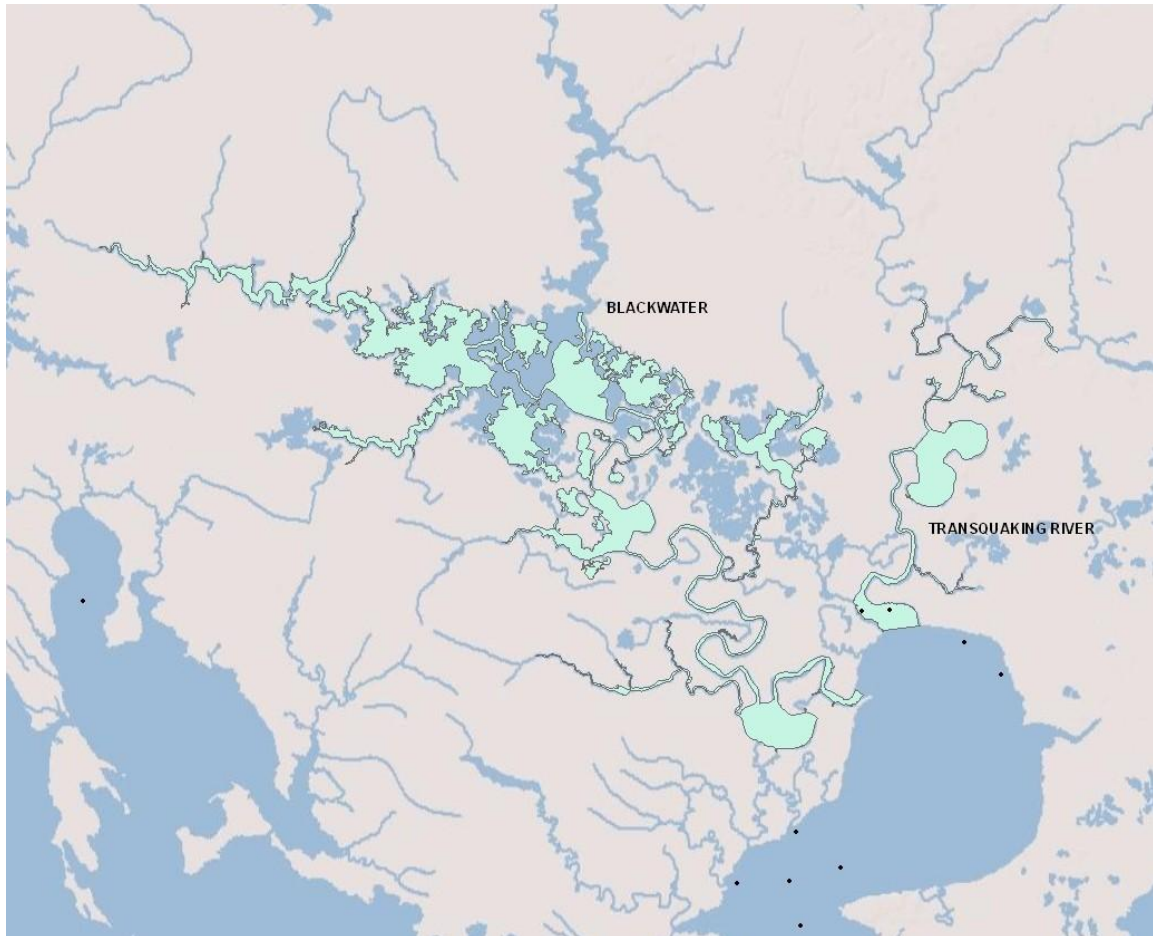


Figure 9. Nanticoke River pound net sites (black dots) of fishermen reporting catches during January – May, 2007 – 2011. Striped bass spawning reaches are in light blue. Note: not all sites were active in any one year.

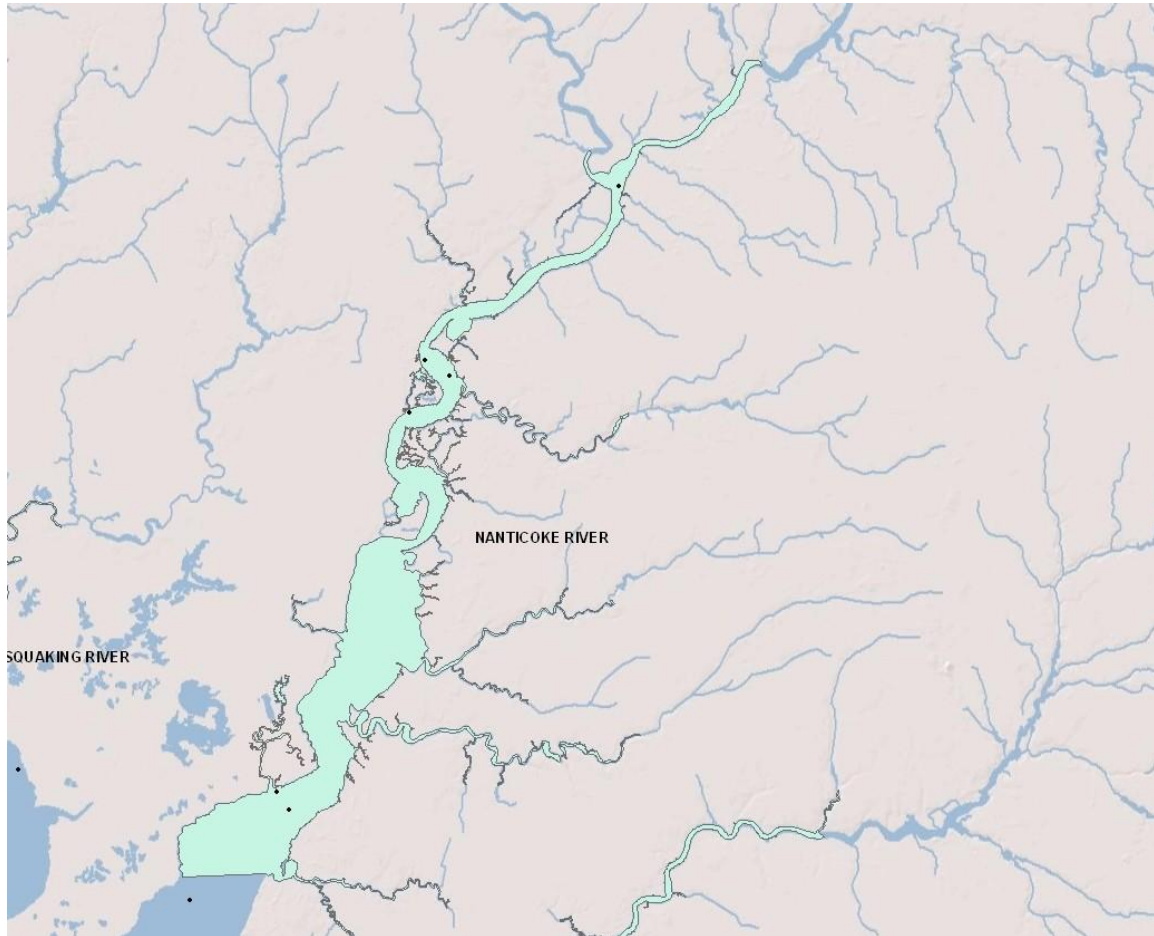




Figure 10. Wicomico River pound net sites (black dots) of fishermen reporting catches during January – May, 2007 – 2011. Striped bass spawning reaches are in light blue. Note: not all sites were active in any one year.

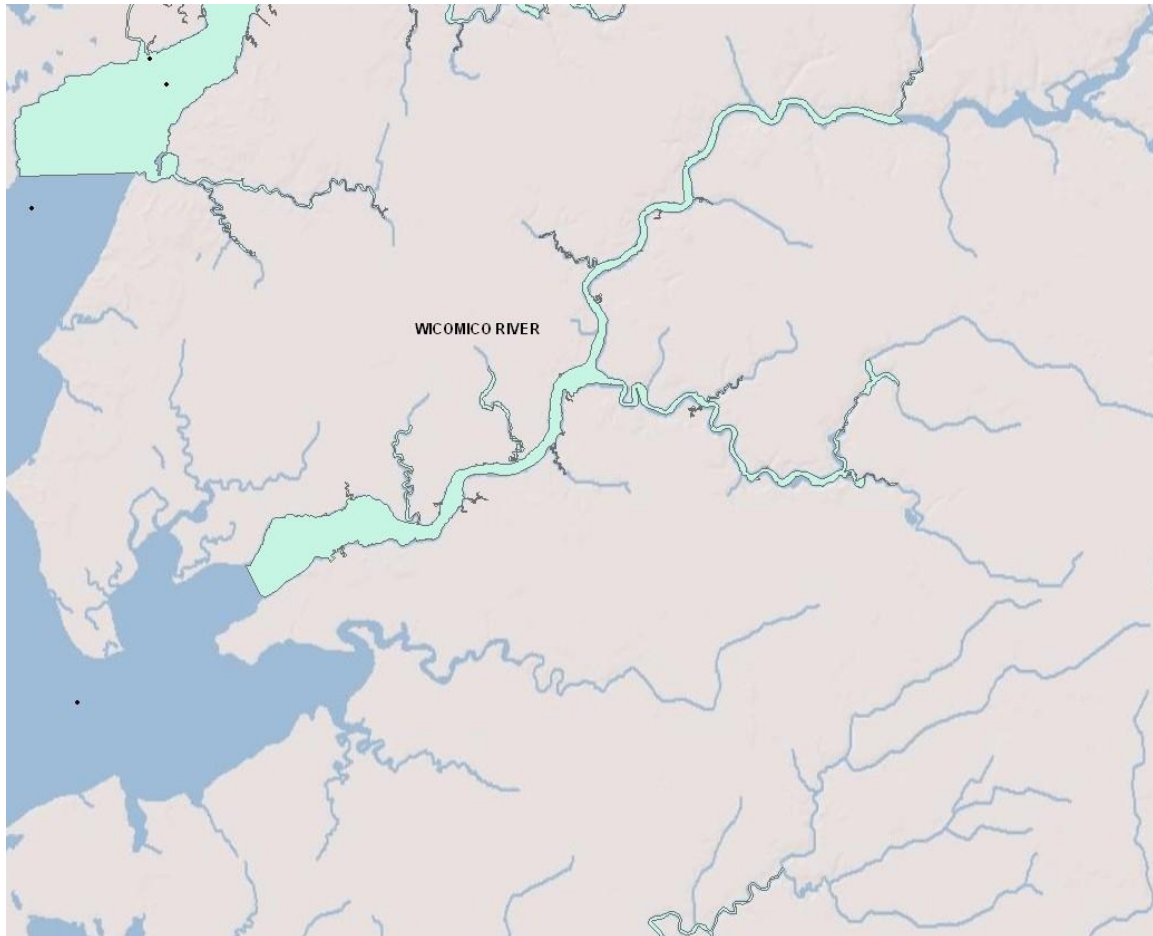


Figure 11. Manokin River pound net sites (black dots) of fishermen reporting catches during January – May, 2007 – 2011. Striped bass spawning reaches are in light blue. Note: not all sites were active in any one year.



Figure 12. Pocomoke River pound net sites (black dots) of fishermen reporting catches during January – May, 2007 – 2011. Striped bass spawning reaches are in light blue. Note: not all sites were active in any one year.



## Appendix 1: Pound Nets – Statute and Regulation Summary

### OVERVIEW

The season for setting pound nets is established by regulation. Areas are established/restricted in both regulation and statute. Maryland has 31 statutes and 12 regulations relevant to pound nets. Below is a summary.

### SUMMARY OF RULES

#### **Regulations**

COMAR 08.02.03 contains regulations for catching crabs with pound nets. Subject to season, time, and possession/size limits, an individual licensed to commercially harvest crab and finfish may catch crab with pound nets.

COMAR 08.02.05 contains regulations for fishing with pound nets in tidal waters. Pound net sites must be registered with and approved by the Department. The licensee must comply with all requirements for the pound net site, properly mark all pound nets according to regulation, and use pound nets that meet the regulatory definition. Generally, a commercial licensee may not catch, possess, or sell black drum; however, a commercial licensee may notify the Department if a black drum is incidentally caught with a pound net. There is a general prohibition against catching black bass with a pound net. Black bass caught with a pound net must be immediately returned uninjured to the water. COMAR 08.02.11 contains regulations for fishing in nontidal waters and stipulates that pound nets are prohibited in Put-and-Take Trout Fishing Areas and Special Fisheries Management Areas for trout.

COMAR 08.02.15 regulates striped bass fishing and includes regulation of pound nets to catch striped bass. A commercial tidal fish licensee is required to register for a striped bass allocation permit in order to participate in a striped bass season. When registering, a licensee must specify and be authorized to use a pound net in the Chesapeake Bay and its tidal tributaries. Additionally, each pound net must be registered with and certified by the Department, and an individual may not use more than the number of registered pound nets (4 net maximum per permit) during the commercial striped bass season. A commercial tidal fish licensee may hold a maximum of five striped bass pound net allocation permits, and cannot be assigned both a hook/line allocation

permit and a pound net allocation permit. Striped bass harvested from a pound net must be tagged according to regulation within 200 yards of the pound net. COMAR 08.02.15.07 and 08.02.15.12 provide general restrictions on the striped bass fishery, and detail the commercial striped bass pound net fishery quotas, size limits, seasons, and times.

COMAR 08.02.22 establishes regulations for the commercial shark fishery. So long as they comply with all season, time, and catch limits, commercial licensees are authorized to use pound nets to catch sharks.

### **Statutes**

Natural Resources Code Subtitle 5 provides general prohibitions, and net and fishing interference restrictions.<sup>1</sup> Individuals may not take fish from another's pound net, and may not disturb, take, or interfere in any way with another's gear.

Natural Resources Code Subtitle 6 contains licensing, regulation, and supervision laws relating to pound net use in nontidal waters.<sup>2</sup> In general, a person may not use a pound net in nontidal waters; possession of the gear while fishing constitutes prima facie evidence of a section violation. Nonresidents may not fish pound nets in Maryland waters.

Natural Resources Code Subtitle 7 contains licensing, regulation, and supervision laws relating to pound net use in tidal waters.<sup>3</sup> An individual must have a valid license in order to lawfully catch or attempt to catch finfish with a pound net in tidal waters and may not set pound nets if his commercial net fishing license is suspended or revoked. A pound net may not be greater in length than one third the distance across the waters where it is set, and may not impede, obstruct, or block in any way navigation of the main channel of the water where it is set. The length limit does not apply to nets set parallel to the bank or shore. Except in certain circumstances, the Department may not issue a license to set a pound net on the location occupied by any other pound net, within 4,500 feet of another pound net in the Chesapeake Bay, or within 1,500 feet in a tributary of the Chesapeake Bay. Additionally, a person may not set a pound net within 4,500 feet of another pound net in the Chesapeake Bay or within 1,500 feet in a tributary. With a few

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<sup>1</sup> Relevant sections: §§ 4-505, 4-506, 4-508.

<sup>2</sup> Relevant sections: §§ 4-618 – 4-620.

<sup>3</sup> Relevant sections: §§ 4-704, 4-705, 4-708, 4-710, 4-711, 4-712.

exceptions, the owner, tenant, lessee of property adjacent to tidal waters retains first choice of the set or position to place pound nets in front of his property. § 4-711 provides additional length, distance, and stake restrictions and guidelines. Unless the owner of a pound net location gives written permission, a fyke net cannot be set within 300 feet of a pound net. In certain areas of the Chesapeake Bay, pound nets must have a stretched mesh of at least 1½ inches, must contain twine size of #12 or larger, and may not be used to catch finfish from December 1 through April 1. Subtitle 7 also includes a general prohibition against catching chain pickerel with a pound net. Chain pickerel caught with a pound net must be immediately returned uninjured to the water. (Md. Code., Nat. Res., § 4-735).

Maryland's Natural Resources Article §§ 4-714 – 4-730 contain county and river specific laws with pound net implications. Generally, the laws prohibit or restrict the use of pound nets in certain waters within a county or river. For example, § 4-721 provides that “[a] person may not fish a pound net or stake net in the waters of the Susquehanna River.” (Md. Code, Nat. Res., § 4-721). Subtitle 11A includes additional area restrictions—an Aquaculture Enterprise Zone, a submerged land lease, and a demonstration lease may not be located within 150 feet of a registered pound net site.